REMARKS

Status of the Claims

Claims 48 and 49 are currently withdrawn from examination pending amendment. Claims 48-50 and 53 are presently amended. New claims 56-60 are added.

Support for the amendment of claims 48 and 49 is found, for example, at paragraph 79 and throughout the specification. Support for new claim 57 and amended claim 53 are found in original claim 50 and throughout the specification. Support for new claims 56, 58, 59 and 60 is found, for example, at paragraphs 32, 37, 38, 46 and 50, original claims 1, 18 and 34 and throughout the specification.

Election and Claims Readable Thereon

A restriction requirement was previously issued on December 2, 2005. Applicants made an election without traverse to that restriction requirement on May 31, 2006. Upon review and reconsideration, on August 9, 2006 the Examiner vacated the previous restriction requirement and submitted the present restriction requirement.

Applicants traverse the new restriction requirements, with certain exceptions discussed below. Nevertheless, as required, Applicants elect examination of newly-added claim 56 and Group I which includes claims 1-3, 6-8 and 14 as they apply to nucleic-acid-based methods and claims 4, 5, and 9-13 in their entirety. For the elected Group Applicants further elect examination of the following species: (A) FLJ20174 marker, (B) breast cancer, (C) cDNA, and (D) amplifying the nucleic acid, and further elect examination of the nucleic acid species of SEQ ID NO: 3.

With regard to elections of species, Applicants do not traverse the restriction requirement to elect either the CXCL9 or FLJ20174 markers. Applicants also do not traverse the restriction

requirement to elect either breast or ovarian cancer. Applicants further do not traverse an election of species for Group XI with regard to species of agents. Applicants do however traverse all other restriction requirements and election of species put forth by the Action of August 9, 2006.

A. Claims 48 and 49 are amended and should be rejoined for examination.

The Action withdraws claims 48 and 49 "because it is not possible to determine which Group it is intended" and indicates that "upon amendment it will be rejoined to the appropriate Group for examination." Claims 48 and 49 erroneously depended from claim 43 and should have been claimed as dependent from claim 47. The claims have been amended to correct the numbering error.

Based on the new amendments, claims 48 and 49 should be rejoined to the appropriate group for examination.

B. Claim 50 is amended and claim 57 is added.

Applicants have chosen to amend claim 50 to recite only therapeutic agents that bind to gene products. Applicants have also chosen to add claim 57 which recites only therapeutic agents that bind to nucleic acids. As such, under the current restriction scheme claim 50 in its entirety is properly assigned to Group X and claim 57 in its entirety is properly assigned to Group XI.

C. Claims 47 is improperly joined with claim 50 in Groups X and XI and should properly be joined with claims 41-43 of Group VII as process and apparatus for its practice.

Claim 47 and its dependent claims 48 and 49 are directed to a kit for assessing the suitability of one or more test compounds and thus are related to claims 41-43 directed to methods of assessing a test compound as an effector of breast or ovarian cancer. The two sets of claims are related as process and apparatus for its practice and therefore should be examined together (MPEP 806.05(e).

Furthermore, claims 47-9 appear to be improperly grouped with claim 50 and it's dependent claims which are directed to therapeutic agents for the treatment of breast or ovarian cancer.

Applicants therefore traverse the restriction requirement with relation to claim 47 and respectfully request that claims 47-49 be included in Group VII and not in Groups X and XI.

D. The requirement to fragment claims under 35 U.S.C. § 121 is improper as it violates Applicants' basic right to claim the invention as they choose.

1. It is improper to require Applicants under 35 U.S.C. § 121 to divide claims into "nucleic-acid based" and "protein-based" claims.

The present restriction requirement requires restriction in Group I to "[c]laims 1-3, 6-8 and 14 in part as they apply to nucleic acid based methods," in Group II to "[c]laims 18-20 and 22-24 in part as they apply to nucleic acid based methods," in Group III to "[c]laims 34-36 and 38-40 in part as they apply to nucleic acid based methods," in Group IV to "[c]laims 1-3, 6-8 and 14 in part as they apply to protein based methods," in Group V to "[c]laims 18-20 and 22-24 in part as they apply to protein based methods," in Group VI to "[c]laims 34-36 and 38-40 in part as they apply to protein based methods, in Group X to claim 47 "drawn, to, in part as it applies to an agent that binds a protein gene product" and in Group XI to claim 47 "in part as it applies to an agent that binds nucleic acid."

The Action justifies these restrictions by asserting that "inventions I-VI are materially distinct methods which differ at least in objectives, methods steps and criteria for success." In particular, the Action asserts that "[t]he methods of inventions I-III and IV-VI are distinct from each other because inventions I-III use nucleic acid based methods and methods IV-VI use protein based methods." Similarly, the Action also asserts that inventions X and XI are "unrelated" because one is nucleic-acid based and the other is protein-based.

In essence, the restriction requirement under 35 U.S.C. § 121 rejects claims 1-3, 6-8, 14, 18-20, 22-24, 34-36, 38-40 and 47 because they are drawn to the Markush group of comparing a marker's expression pattern either through detection of nucleic acids or gene products. The Action asserts that the members of that Markush group are independent and distinct inventions. Applicants respectfully submit that a rejection of the claims on this basis is improper:

> Under In re *Weber*, 580 F.2d 455, 458, 198 USPQ 328, 332 (CCPA 1978) and In re *Haas*, 580 F.2d 461, 464, 198 USPQ 334, 336 (CCPA 1978), it is never proper for an examiner to reject a Markush claim under 35 U.S.C. §121. Section 121 simply does not authorize such a rejection. *Id.*
> In re *Watkinson*, 14 USPQ2d 1407, 1409 (Fed. Cir. 1990).

Thus, requiring an Applicant to divide up a claim that satisfies 35 U.S.C. §112 into two or more separate inventions violates the Applicants statutory rights under 35 U.S.C. § 121. The CCPA explained the basis for this rule in 1978:

> An applicant is given, by the statute, the right to claim his invention with the limitations he regards as necessary to circumscribe that invention, with the proviso that the application comply with the requirements of §112. . .
>
> As a general proposition, an applicant has a right to have each claim examined on the merits. If an applicant submits a number of claims, it may well be that pursuant to a proper restriction requirement, those claims will be dispersed to a number of applications. Such action would not affect the right of the applicant eventually to have each of the claims examined in the form he considers to best define his invention. *If, however, a single claim is required to be divided up and presented in several applications, that claim would never be considered on its merits. The totality of the resulting fragmentary claims would not necessarily be the equivalent of the original claim. Further, since the subgenera would be defined by the examiner rather than by the applicant, it is not inconceivable that a number of the fragments would not be described in the specification.*
>
> It is apparent that §121 provides the Commissioner with the authority to promulgate rules designed to restrict an application to one of several claimed inventions when those inventions are found to be "independent and distinct." It does not, however, provide a basis for an examiner acting under the authority of the Commissioner to reject a particular claim on that same basis.
>
> Even though the statute allows the applicant to claim his invention as he sees fit, it is recognized that the PTO must have some means for controlling such administrative matters as examiner caseloads and the amount of searching done per filing fee. *But, in drawing*

priorities between the Commissioner as administrator and the applicant as beneficiary of his statutory rights, we conclude that the statutory rights are paramount. We hold that a rejection under §121 violates the basic right of the applicant to claim his invention as he chooses.

In re *Weber*, 198 USPQ 328, 331-2 (CCPA 1978)(*emphasis added*).

Applicants therefore traverse the restriction requirements relating to claims -3, 6-8, 14, 18-20, 22-24, 34-36, 38-40 and 47. The claims in Groups I and IV, II and V, III and VI and X and XI (Groups X and XI with respect to claim 47 and its dependent claims only) are properly paired with one another. For the reasons discussed above it is improper to require Applicants to separate them under 35 U.S.C. § 121. Applicants respectfully request that on the basis of the present argument the restriction requirements be withdrawn and that the claims of Groups I and IV be merged; the claims of Groups II and V be merged; the claims of Groups III and VI be merged, the claims of Groups VIII and IX and claim 44 be merged; and claim 47 of Groups X and XI be merged.

2. *It is improper to require Applicants under 35 U.S.C. § 121 to submit related nucleic acid or related protein sequences in separate claims.*

The Action requires that: "[u]pon election of Group I, applicant must further choose ONE nucleic acid molecule SEQ ID NO: from Claim 9, as each nucleic acid molecule represents an independent invention, not a species." Similarly, the Action asserts that each of the nucleic acid molecules and polypeptides encompassed by the claims of groups II, IV-V, VIII, IX, X and XI "represent an independent invention, not a species" .

Applicants have agreed to the restriction of the present claims to either the CXCL9 marker or the FLJ20174 marker, and therefore do not contest the withdrawal from examination of nucleic acid or polypeptide sequences that relate to the marker that is not elected. Applicant's do however traverse the requirement that sequences relating to the same marker be presented as separate claims. In particular, Applicants traverse the holding that the two sequences relating to the FLJ20174 marker are separate inventions rather than species and must be submitted as separate claims.

The claims to related sequences are Markush claims. For the same reasons discussed above in Section D.1. it is never proper for an examiner to reject a Markush claim under 35 U.S.C. §121. Applicants therefore respectfully request that the restriction requirement for Groups I-II, IV-V and VIII-XI requiring Applicants to choose "ONE" nucleic acid molecule or polypeptide to present as an independent invention be withdrawn.

It appears that in the case of Groups III and VI the Action only requires that Applicants elect a species of nucleic acid or polypeptide sequence for examination, and does not state that each sequence is an "independent invention, not a species," as it does for similar claims of Groups I-II and IV-V. But since the Action does not include this election of species at paragraphs 16 and 18 where elections of species are discussed with regard to these groups, Applicants are unclear as to whether this is intended as a restriction of an election of species.

In either case, as stated above, Applicants do not contest withdrawing sequences to the cancer marker not elected for examination, but in the case of related sequences Applicants submit that there is nothing to be gained by examining the related nucleic acid and polypeptide sequences separately. The sequences in question are largely overlapping, such that a search of the larger sequence will necessarily encompass the smaller one. The Examiner therefore gains nothing by examining the species separately, and indeed is only likely to generate additional searches and additional Actions which will unnecessarily add to the pendency of the application. Applicants therefore also respectfully request that the Examiner withdraw the restriction or election of a species of a polypeptide or nucleic acids sequence with regard to Groups III and VI.

E. The methods of Groups I-VI are linked by newly added linking claim 56.

Independent claims 1, 18 and 34 overlap the subject matter of newly added generic claim 56 and it's dependent claims 58-60. The presence of linking claim 56 and it's dependent claims 58-60 prevents restriction between claims 1, 18 and 34.

Furthermore, examination of claims 1, 18 and 34 together presents no additional burden on the Examiner if restriction between the claims is not required. For all three claims the Examiner will be required to determine if a link has been established in the prior art between the expression pattern of the CXCL9 and FLJ20174 nucleic acids or gene products and the presence or absence of breast or ovarian cancer. Applicants cannot think of any search string that will be required by claims 1, 18 or 34 that will not also be required by the other two claims. Thus the examination of claims 1, 18 and 34 and of generic linking claim 56 should not be any more burdensome that searching only one of these claims.

F. The methods of Groups I-VI and new claim 56 are linked as process and apparatus for its practice with Groups VIII and IX and claim 44, 48 and 49.

The Action asserts at paragraphs 6 and 8 that Groups I-VI are related to inventions VII and IX as product and process of use. Applicants believe that the two groups are more accurately classified as being related as process and apparatus for its practice under MPEP 806.05(e), and that under that standard they cannot be shown to be distinct inventions. Thus restriction between Groups I-VI and Groups VIII, IX and their linking claim 44 is improper and all should be grouped as a single invention along with new claim 56. Applicants respectfully request that the restriction requirements drawn to groups I-VI, VII and IX be withdrawn and that the inventions be so grouped.

G. Withdrawal of the traversed restriction requirements will not invoke a burdensome search.

As discussed above a search of the combined claims of Groups I-VI, VIII and IX, linking claim 44 and new claim 56 will not invoke any additional burden for the Examiner. Applicants believe that the inventions should all fall within the same field of search and should require identical search terms, as the Examiner will be required to determine for any and all of these inventions

whether a link between the expression pattern of the CXCL9 or FLJ20174 marker and breast or ovarian cancer was known in the prior art. The literature search for all of these claims therefore should be largely or entirely coextensive.

Similarly, the grouping of claims 41-43 of Group VII and claims 47-49 will require highly similar if not identical searches. Based on the close relationship of the claims the field of search, search terms and the literature search should also be largely if not entirely coextensive.

Applicants therefore respectfully request that they not be required to bear the costs several times over for identical or nearly identical searches of the prior art and that the traversed restriction requirements be withdrawn. Applicants have acceded to the division of the application into no less than 16 separate inventions (4 restriction groups x 2 markers x 2 cancers) and believe that this is more than adequate given the relatively limited scope of the present invention. Applicants therefore earnestly request that the Examiner accept the modified invention groups suggested by the Applicants and proceed as soon as possible with the Examination of the application. For the Examiner's convenience, the groups proposed by the Applicants are as follows:

New Group I: Claims 1-40, 44-46, and 56, 58-60 (Formerly Groups I-VI, VIII and IX)

New Group II: Claims 41-43 and 47-49 (Formerly Group VII and part of Group X)

New Group III: Claims 50-52 (Formerly part of Groups X and XI)

New Group IV: Claims 53-55 and 57 (Formerly part of Groups X and XI)

H. Applicants traverse certain species elections

1. Applicants traverse the election of a species of nucleic acids

The Action indicates at paragraph 15.C. that Applicants must elect mRNA, hnRNA or cDNA with regard to the examination of claims 1 and 18. As stated in the Action, claims 1 and 18 are generic claims with regard to these species. According to MPEP 808.01(a) "In

applications where only generic claims are presented, restriction cannot be required unless the generic claims recite such a multiplicity of species that an unduly extensive and burdensome search would necessary to search the entire scope of the claims." Applicants submit that the search that must be performed for each of these embodiments is essentially identical and therefore nothing is gained by the requirement for Applicants to elect a single species. For example, the sequence databases that need to be searched are insensitive to whether or not the searched sequence is mRNA, hnRNA or cDNA. Therefore searching these species would not be unduly burdensome.

For these reasons, Applicants respectfully request that the requirement to elect a species of nucleic acid for examination be withdrawn.

2. Applicants traverse the election of a species of nucleic acid detection

The Action indicates at paragraph 15.D. that Applicants must elect "specific binding under stringent hybridization conditions" and "amplifying the nucleic acid" with regard to the examination of claims 1 and 18. As stated in the Action, claims 1 and 18 are generic claims with regard to these species. Again, according to MPEP 808.01(a) "In applications where only generic claims are presented, restriction cannot be required unless the generic claims recite such a multiplicity of species that an unduly extensive and burdensome search would necessary to search the entire scope of the claims." Applicants submit that the search that must be performed for each of these embodiments is essentially identical and therefore nothing is gained by the requirement for Applicants to elect a single species. Both methods of nucleic acid detection permit the detection of sequences that have a limited degree of dissimilarity from a designated sequence. The sequence databases that need to be searched all detect sequences that have a limited degree of dissimilarity from a designated sequence and are insensitive to the biological methods that are used to actually detect such sequences. Unless the Examiner is proposing to

search the prior art by doing actual nucleic acid hybridization or nucleic acid amplification assays, the conventional search methods required for either of these methods is identical. Therefore searching these species would not be unduly burdensome.

For these reasons, Applicants respectfully request that the requirement to elect a species of nucleic acid detection for examination be withdrawn.

3. Applicants traverse the requirement to elect a "species" of assessing the expression pattern of a nucleic acid

The Action indicates at paragraph 16.C. that claim 34 is generic to the following disclosed patentably distinct species of assessing the expression of a nucleic acid: (1) determining the level of expression; (2) comparing expression patterns of CXCL9 or FLJ20174 in different tissue samples from the same subject and requires election of one of the two species. Applicants traverse this requirement. The alleged "species" do not belong to a single genus. Species (1) is a further limitation of steps (a) and/or (b) of claim 34. Species (2) is a further limitation of step (c) of claim 34. Therefore the claimed species do not fall within the same genus.

Applicants therefore traverse the characterization of these dependent claim limitations as species of a shared genus and request that the requirement to elect such a "species" be withdrawn.

4. Applicants traverse the requirement to elect a "species" of assessing the expression pattern of a protein

The Action indicates at paragraph 18.C. that claim 34 is generic to the following disclosed patentably distinct species of assessing the expression of a protein: (1) determining the level of expression; (2) comparing expression patterns of CXCL9 or FLJ20174 in different tissue samples from the same subject; and (3) comparing the level of post-translational modification of CXCL9 or FLJ20174 and requires election of one of the three species. Applicants traverse this

requirement. The alleged "species" do not belong to a single genus. Species (1) and (3) are further limitations of steps (a) and/or (b) of claim 34. Species (2) is a further limitation of step (c) of claim 34. Therefore the claimed species do not all fall within the same genus.

Applicants therefore traverse the characterization of these dependent claim limitations as species of a shared genus and request that the requirement to elect such a "species" be withdrawn.

CONCLUSION

In summary, Applicants do not traverse the restriction to the CXCL9 or FLJ20174 markers, and the restriction to breast or ovarian cancer. Applicants respectfully traverse all other restrictions. For the reasons given above Applicants believe that the claims are properly restricted as outlined in section G above.

Applicants have now responded to a first restriction requirement, had that restriction requirement vacated and now have responded to a second restriction requirement. Applicants respectfully request that the traversed restriction requirements be withdrawn and that examination on the merits proceed as soon as possible. If the Examiner has any questions or comments regarding any issue associated with this application a telephone call to the undersigned representative at 512.542.8441 is welcome.

Please date stamp and return the enclosed postcard evidencing receipt of these materials.

Respectfully submitted,

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